Curtis Lin, Ph.D. MIDS

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SUMMARY

A systems biologist has 10+ years research experience in oncology and genetics and 4+ years industrial experience in leading/supporting biomarker discovery, therapeutic monoclonal antibody discovery and development, cell-based assay development, clinical phase cell manufacturing quality control, GMP environment, high-throughput drug screening, and CRO/CMO management of cell therapy and immunotherapy. Led or worked with cross-functional teams on tech transfer, strategic planning, internal and external collaboration, and project management.

Also experienced in analysis and data management of large volume complex datasets or images using Python and R programming, machine learning algorithms, convolutional neural network, cloud computation, parallel computation with the MapReduce programming paradigm, and data visualization.

EXPERIENCE

AbVision Inc. – Senior Scientist, Research and Development, Milpitas, CA **June 2018 – present**

Cancer Immunotherapy and single cell sequencing

- Initiated/Led the development of novel platform of therapeutic antibody discovery with B cell sorting, single cell sequencing and machine learning algorithm
- Led preclinical studies of AVI105 and AVI111 with immune cell-based assay development and *in vivo* efficacy studies using xenograft and syngeneic mouse models
- Initiated, planed, and managed projects of outside contract organizations
- Established academic and industry collaborations to kickoff pipeline programs and outline development plans
- Supervised/managed junior scientists and postdocs

School of Information, UC Berkeley – Master student, Berkeley, CA **Aug 2018 – present**

- Establish an intelligent system that integrates electronic medical records, chest X-rays, and deep learning insights to empower radiologists' diagnoses and workflows
- Built a system on edge device to capture American Sign Language (ASL) and automatically convert ASL to audio with convolutional neural network

SanBio Inc. – Scientist II, Quality Control; Mountain View, CA **Jan 2018 – June 2018**

qPCR Assay Development, Quality Control, and GMP manufacturing

- Developed, optimized, tech transferred and validated assays to GMP environment
- Planed, executed, and documented analytical studies such as limits of detection, linearity, and reproducibility
- Worked within cross-functional team to oversee and troubleshoot on-going product testing in CMO and CTL
- Reviewed all documentation include standard procedures (SOP), deviations, tech transfer report, batch record, qualification reports, validation report, and specification during product development

SanBio Inc. – Scientist II, Research; Mountain View, CA **June 2016 – Dec 2017**

Cell therapy, qPCR, NGS, and Assay Development

- Developed biomarker-based qPCR assays to assist in-process control and support process validation of stem cell process develop and scale-up production for phase 2/3 clinical trials
- Identified/managed CRO for Next Generation Sequencing services
- Established onsite NGS data management and NGS data analysis pipeline

Department of Systems Biology, MD Anderson Cancer Center– Postdoc Fellow; Houston, TX **Aug 2011 – Oct 2015**

Systems Biology, Cancer Biology, Biomarker, and DNA damage response

- Developed novel biomarkers to predict PARP inhibitors sensitivity with publication of *npj Systems Biology and Applications*, *Nature Communications*, and a patent
- Executed/managed a 3.5 million DoD-funded project and successfully obtained funding from Cancer Prevention Research Institute of Texas for High throughput compounds screening
- Designed/executed imaging-based high-throughput drug screening and assays of dose-effect relationships to identify five categories of compounds for effectively targeting DNA damage response defective breast cancer

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EDUCATION

Master in Information and Data Science, University of California, Berkeley, Berkeley, CA **2018-2020**
Postdoc Fellow in Systems Biology, the University of Texas MD Anderson Cancer Center, Houston, TX **2011-2015**
Ph.D. in Biochemistry and Cell Biology, Rice University, Houston, TX **2006-2011**
M.S. in Biochemical Sciences, National Taiwan University, Taipei, Taiwan **2000-2002**
B.S. in Chemistry, National Cheng Kung University, Tainan, Taiwan **1996-2000**

PATENTS

International Patent Application No. PCT/US2019/020921 **2019**
Replication stress response biomarkers for immunotherapy response
McGrail D., Lin S.Y., Pilie P, Jonasch E, **Lin C.C.**

International Patent Application No. PCT/US2014/020376 **2014**
Gene signature to predict homologous recombination (hr) deficient cancer
Lin C.C., Peng G., Lin S.Y., Mills G.B.

AWARDS

- **Susan G. Komen® Scholar-in-Training Awards**, American Association for Cancer Research **2014**
- **Travel Award of 5th Annual NIH National Graduate Research Festival**, National Institute of Health **2011**
- **Dean of Wiess School of Natural Sciences Travel Grant**, Rice University **2008**

DATABASE SUBMISSION

Gene Expression Omnibus (GEO) database: GSE54269, GSE59227

MEMBERSHIP

- **Active member**, American Association for Cancer Research
- **Regular member**, American Society for Biochemistry and Molecular Biology

SCIECTIFIC SKILLS

Systems Biology	Cell Biology and immunology	Cancer and Molecular Biology
R and Python programming	T cell activation and proliferation	DNA/RNA extraction
Next generation sequencing (NGS)	DC differentiation and maturation	qPCR
Microarray	Macrophage phagocytosis	Molecular cloning
NGS and microarray data analysis	B cell activation	Signaling pathways
High-throughput screening (Tecan)	Single cell sequencing	Tumorigenesis
Gene expression analysis	2D and 3D cell culture system	ELISA
Machine learning algorithms	Multicolor FACS	Immunohistochemistry
Parallel and cloud computation	TAA and neoantigens	HPLC

PUBLICATIONS

- McGrail DJ*, **Lin CC***, Dai H, Mo W, Stephan C, Davies P, Lu Z, Lee JS, Lin SY (2018) Defective replication stress response is inherently linked to the cancer stem cell phenotype, *Cell Reports*, 15;23(7):2095-2106 (co-first author)

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- McGrail DJ, **Lin CC**, Garnett J, Liu Q, Mo W, Dai H, Lu Y, Yu Q, Ju Z, Yin J, Vellano CP, Hennessy B, Mills GB, Lin SY (2017) Improved prediction of PARP inhibitor response and identification of synergizing agents through use of a novel gene expression signature generation algorithm. *npj Systems Biology and Applications* 3, 8
- Wang W, Zhao J, Wen X, **Lin CC**, Li J, Huang Q, Yu Y, Lin SY, Li C (2017) MicroPET/CT Imaging of AXL Downregulation by HSP90 Inhibition in Triple-Negative Breast Cancer. *Contract Media & Molecular Imaging*, 1686525
- Mo W, Liu Q, **Lin CC**, Dai H, Peng Y, Liang Y, Peng G, Meric-Bernstam F, Mills GB, Li K, Lin SY (2016) mTOR inhibitors suppress homologous recombination repair and synergize with PARP inhibitors via regulating SUV39H1 in BRCA-proficient triple-negative breast cancer. *Clinical Cancer Research* 22, 1699
- Peng Y, Dai H, Wang E, **Lin CC**, Mo W, Peng G, Lin SY (2015). TUSC4 functions as a tumor suppressor by regulating BRCA1 stability. *Cancer Res*., 75(2):378-86.
- Peng G*, **Lin CC*,** Mo W.*, Dai H, Park Y, Kim S, Mo Q, Peng Y, Siwko S, Hu R, Lee J, Hennessy B, Hanash S, Mills GB, Lin SY (2014) A molecular portrait of the homologous recombination DNA repair via genome-wide transcriptome profiling. *Nature Communications*, 5, 3361 (co-first author)
- Johnson C, **Lin CC**, Stern M (2012). Ras-dependent and Ras-independent effects of PI3K in Drosophila motor neurons. *Genes, Brain and Behavior*, 11, 848-858.
- **Lin CC**, Summerville J, Howlett E, Stern M (2011) The metabotropic glutamate receptor activates the lipid kinase PI3K in Drosophila motor neurons through the calcium/calmodulin-dependent protein kinase II and the nonreceptor tyrosine protein kinase DFak. *Genetics*, 188, 601
- Chen Y, Fujita T, Zhang D, Doan H, Pinkaew D, Liu Z, Wu J, Koide Y, Chiu A, **Lin CC**, Chang JY, Ruan KH, Fujise K (2011). Physical and functional antagonism between tumor suppressor protein p53 and fortilin, an anti-apoptotic protein. *J. Biol. Chem*., 286, 32575
- Howlett E, **Lin CC**, Lavery W, Stern M (2008). A PI3 kinase-mediated negative feedback regulates Drosophila motor neuron excitability. *PloS Genetics*, 4, e1000277.
- Chang JY, **Lin CC**, Salamanca S, Pangburn MK, Wetsel RA (2008). Denaturation and unfolding of human Anapylatoxin C3a: An unusually low covalent stability of its native disulfide bonds. *Arch Biochem Biophys*, 480, 104-110.
- **Lin CC**, Chang JY (2007) Pathway of oxidative folding of bovine alpha-interferon: predominance of native disulfide-bonded folding intermediates. *Biochemistry*, 46, 3925
- Graidist P, Yazawa M, Tonganunt M, Nakatomi A, **Lin CC**, Chang JY, Phongdara A, Fujise K (2007). Fortilin binds Ca2+ and blocks Ca2+-dependent apoptosis in vivo. *Biochem J*., 408,181-191.
- **Lin CC**, Chang JY (2006) Pathway of Oxidative Folding of Secretory Leucocyte Protease Inhibitor: An 8-disulfides protein exhibits a unique mechanism of folding. *Biochemistry*, 45, 6231
- **Lin CC**, Lu BY, Chang JY (2006). Conformational stability of Secretory Leucocyte Protease Inhibitor: a protein with no hydrophobic core and very little secondary structure. *Biochim Biophys Acta*. 1764, 1286-1291.
- Chang JY, Lu BY, **Lin CC**, Yu C. (2006). Fully oxidized scrambled isomers are essential and predominant folding intermediates of Cardiotoxin-III. *FEBS Lett*., 580, 656.

Conference Abstracts

- **Lin CC**, Dai H, Mo W, Lin SY (2015) The Defects of Replication Stress Response Facilitate the Formation of Tumor-initiating cells. *Exploring DNA Repair Pathways as Targets for Cancer Therapy Conference*, Cancun, Mexico
- **Lin CC**, Dai H, Lin SY (2014) The replication stress response defect is associated with tumor-initiating cell formation. *AACR Annual Meeting 2014*. San Diego CA, USA
- Lin SY, Peng G, **Lin CC**, Mo W, Mills GB (2013) A robust gene signature predicting deficient homologous recombination DNA repair. *4th International Conference on Biomarkers & Clinical Research.* Philadelphia PA, USA
- **Lin CC**, Summerville J, Stern M (2010) CaMKII and FAK regulate neuronal homeostasis via PI3K-mediated negative feedback in Drosophila nervous system. *5th Annual NIH National Graduate Student Research Festival*. National Institute of Health, Bethesda MD, USA
- Howlett E, **Lin CC**, Lavery W, Stern M (2007) PI3K regulates neuronal excitability and axonal growth and arborization via distinct effector pathways. *The 2007 meeting on Neurobiology of Drosophila at Cold Spring Harbor Laboratory*, NY, USA.